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SEQUENCE LISTING

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NAGAI, Takeharu

<120> A Fluorescent Protein

<130> P22042

<140> US 10/086,738

<141> 2002-03-04

<150> PCT/JP05/98922001

<151> 2001-03-05

<160> 8

<170> PatentIn version 3.2

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<211> 1278

<212> DNA

<213> Artificial

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<223> Recombinant Fluorescent Protein

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<213> Artificial

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<223> Linker Peptide

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<210> 5
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 <213> Artificial

<220>
 <223> Linker Peptide

<400> 5

Val Asp Gly Gly Ser Gly Gly Thr Gly
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<210> 6
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<400> 6

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 20 25 30

Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile
 35 40 45

Lys Ala Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln
 50 55 60

Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val
 65 70 75 80

Leu Leu Pro Asp Asn His Tyr Leu Ser His Gln Ser Ala Leu Ser Lys

85

90

95

Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr
 100 105 110

Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys Gly Gly Ser
 115 120 125

Gly Gly Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro
 130 135 140

Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val
 145 150 155 160

Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys
 165 170 175

Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val
 180 185 190

Thr Thr Phe Gly Tyr Gly Leu Lys Cys Phe Ala Arg Tyr Pro Asp His
 195 200 205

Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val
 210 215 220

Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg
 225 230 235 240

Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu
 245 250 255

Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu
 260 265 270

Glu Tyr Asn Gly Thr Gly Asp Gln Leu Thr Glu Glu Gln Ile Ala Glu

275

280

285

Phe Lys Glu Ala Phe Ser Leu Phe Asp Lys Asp Gly Asp Gly Thr Ile
 290 295 300

Thr Thr Lys Glu Leu Gly Thr Val Met Arg Ser Leu Gly Gln Asn Pro
 305 310 315 320

Thr Glu Ala Glu Leu Gln Asp Met Ile Asn Glu Val Asp Ala Asp Gly
 325 330 335

Asn Gly Thr Ile Tyr Phe Pro Glu Phe Leu Thr Met Met Ala Arg Lys
 340 345 350

Met Lys Asp Thr Asp Ser Glu Glu Glu Ile Arg Glu Ala Phe Arg Val
 355 360 365

Phe Asp Lys Asp Gly Asn Gly Tyr Ile Ser Ala Ala Gln Leu Arg His
 370 375 380

Val Met Thr Asn Leu Gly Glu Lys Leu Thr Asp Glu Glu Val Asp Glu
 385 390 395 400

Met Ile Arg Glu Ala Asp Ile Asp Gly Asp Gly Gln Val Asn Tyr Glu
 405 410 415

Glu Phe Val Gln Met Met Thr Ala Lys
 420 425

<210> 7
 <211> 427
 <212> PRT
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Arg Phe Lys Lys Ile Ser Ser Ser Gly Ala Leu Gly Ser Ala Gly Tyr
20 25 30

Asn Ser Asp Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile
35 40 45

Lys Ala Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln
50 55 60

Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val
65 70 75 80

Leu Leu Pro Asp Asn His Tyr Leu Ser Phe Gln Ser Ala Leu Ser Lys
85 90 95

Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr
100 105 110

Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys Val Asp Gly
115 120 125

Gly Ser Gly Gly Thr Gly Val Ser Lys Gly Glu Glu Leu Phe Thr Gly
130 135 140

Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys
145 150 155 160

Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu
165 170 175

Thr Leu Lys Leu Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro
180 185 190

Thr Leu Val Thr Thr Phe Gly Tyr Gly Leu Lys Cys Phe Ala Arg Tyr
 195 200 205

Pro Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu
 210 215 220

Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr
 225 230 235 240

Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg
 245 250 255

Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly
 260 265 270

His Lys Leu Glu Tyr Asn Gly Thr Asp Gln Leu Thr Glu Glu Gln Ile
 275 280 285

Ala Glu Phe Lys Glu Ala Phe Ser Leu Phe Asp Lys Asp Gly Asp Gly
 290 295 300

Thr Ile Thr Thr Lys Glu Leu Gly Thr Val Met Arg Ser Leu Gly Gln
 305 310 315 320

Asn Pro Thr Glu Ala Glu Leu Gln Asp Met Ile Asn Glu Val Asp Ala
 325 330 335

Asp Gly Asn Gly Thr Ile Tyr Phe Pro Glu Phe Leu Thr Met Met Ala
 340 345 350

Arg Lys Met Lys Asp Thr Asp Ser Glu Glu Glu Ile Arg Glu Ala Phe
 355 360 365

Arg Val Phe Asp Lys Asp Gly Asn Gly Tyr Ile Ser Ala Ala Gln Leu
 370 375 380

Arg His Val Met Thr Asn Leu Gly Glu Lys Leu Thr Asp Glu Glu Val
 385 390 395 400

Asp Glu Met Ile Arg Glu Ala Asp Ile Asp Gly Asp Gly Gln Val Asn
 405 410 415

Tyr Glu Glu Phe Val Gln Met Met Thr Ala Lys
 420 425

<210> 8

<211> 427

<212> PRT

<213> Artificial

<220>

<223> Recombinant fluorescent protein

<400> 8

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Arg Phe Lys Lys Ile Ser Ser Ser Gly Ala Leu Gly Ser Ala Gly Tyr
 20 25 30

Asn Ser Asp Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile
 35 40 45

Lys Ala Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln
 50 55 60

Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val
 65 70 75 80

Leu Leu Pro Asp Asn His Tyr Leu Ser Phe Gln Ser Ala Leu Ser Lys
 85 90 95

Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr

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Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys Val Asp Gly		
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Gly Ser Gly Gly Thr Gly Val Ser Lys Gly Glu Glu Leu Phe Thr Gly		
130	135	140
Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys		
145	150	155
Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu		
165	170	175
Thr Leu Lys Leu Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro		
180	185	190
Thr Leu Val Thr Thr Phe Gly Tyr Gly Leu Lys Cys Phe Ala Arg Tyr		
195	200	205
Pro Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu		
210	215	220
Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr		
225	230	235
Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg		
245	250	255
Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly		
260	265	270
His Lys Leu Glu Tyr Asn Gly Thr Asp Gln Leu Thr Glu Glu Gln Ile		
275	280	285
Ala Glu Phe Lys Glu Ala Phe Ser Leu Phe Asp Lys Asp Gly Asp Gly		

290

295

300

Thr Ile Thr Thr Lys Glu Leu Gly Thr Val Met Arg Ser Leu Gly Gln
 305 310 315 320

Asn Pro Thr Glu Ala Glu Leu Gln Asp Met Ile Asn Glu Val Asp Ala
 325 330 335

Asp Gly Asn Gly Thr Ile Tyr Phe Pro Glu Phe Leu Thr Met Met Ala
 340 345 350

Arg Lys Met Lys Asp Thr Asp Ser Glu Glu Glu Ile Arg Glu Ala Phe
 355 360 365

Arg Val Phe Asp Lys Asp Gly Asn Gly Tyr Ile Ser Ala Ala Gln Leu
 370 375 380

Arg His Val Met Thr Asn Leu Gly Glu Lys Leu Thr Asp Glu Glu Val
 385 390 395 400

Asp Glu Met Ile Arg Glu Ala Asp Ile Asp Gly Asp Gly Gln Val Asn
 405 410 415

Tyr Glu Glu Phe Val Gln Met Met Thr Ala Lys
 420 425